3-6   **Practice**   *Form K*

Compound Inequalities

Write a compound inequality that represents each phrase. Graph the solutions.

1. All real numbers that are less than –3 or greater than or equal to 5.

$x<$ ☐ ☐ $x \geq$ ☐

2. A certain recipe calls for a cake to bake between 25 minutes and 30 minutes, inclusive.

☐ $\leq$ ☐ $\leq$ ☐

Solve each compound inequality. Graph your solutions.

3. $5 < k - 2 < 11$

4. $-4 > y + 2 > -10$

5. $6b - 1 \leq 213$ and $2b + 1 \geq 11$

6. $5 - m < 4$ or $7m > 35$

7. $3 > \dfrac{11 + k}{4} \geq -3$

8. $4 \leq y + 12 \leq 24$

3-6

Practice (continued)   *Form K*

Compound Inequalities

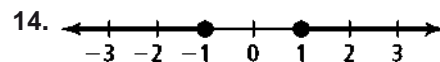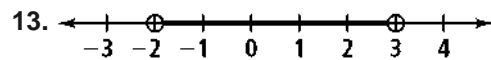**Write each interval as an inequality. Then graph the solutions.**

9. (–2, 3]

$-2 \boxed{} x \boxed{} 3$

10. [–2, 2]

$-2 \boxed{} y \boxed{} 2$

11. (– ∞, –1] or (1, ∞)

12. [0, ∞)

Write a compound inequality that each graph could represent.

13.

14.

Solve each compound inequality. Justify each step.

15. $3f + 3 < 6$ or $7f - 20 > 50$

16. $3 > -0.5h > -3$

17. $-\frac{1}{2} \le \frac{5}{6}j - \frac{1}{3} \le 2$

18. $-\frac{3}{2} \le \frac{5}{6}k$ or $k - \frac{3}{4} \ge 2$

19. A family is comparing different DVD recorders. One unit can record up to eight hours. Another unit can record from two to 10 hours. A third unit can record up to 12 hours. Model these ranges on a number line. Represent each range of hours using interval notation.